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Article title: Paravertebral continuous block analgesia: from theory to routine

First Author: Federico Raveglia

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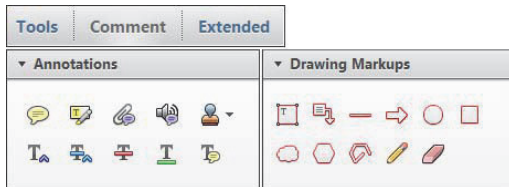
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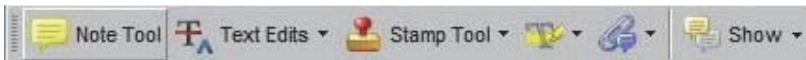
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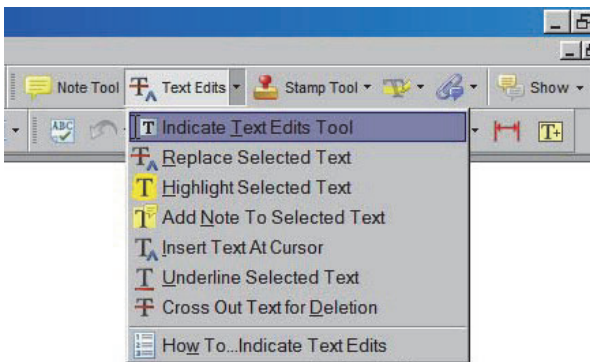
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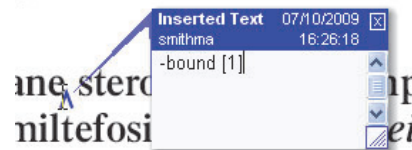
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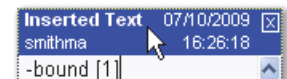
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Paravertebral continuous block analgesia:
from theory to routine[†]

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Q3 **Keywords:** Anaesthesia • Chest wall • Lung cancer: Surgical therapy

We read with interest the article by Scarfe *et al.* [1] since we have been committed to prove whether paravertebral local analgesia could be the new gold standard in thoracic surgery.

Therefore, we are pleased that our data are consistent with the one of their literature review. We found that paravertebral block (PVB) analgesia in thoracotomy patients presents no contraindications or side effects [2]. Moreover, postoperative pain relief was even more successful than in epidural analgesia. Unfortunately, the authors found no improvement of pain management in PVB. However, no meta-analysis was conducted, owing to limited data availability and a lack of uniformity in outcome measurement between studies with regard to the use of rescue analgesia and pain scores.

We support their conclusions with our present daily experience. In the last 2 years, we have definitively left epidural analgesia in favour of PVB by a catheter placed through the thoracotomy. PVB has been gradually obtained success at our thoracic surgery unit, among both surgeons and anaesthetist, because it is not only a safe and successful technique, but it is handy indeed.

These features make PVB very convenient for the anaesthetist who saves time preoperatively and for the surgeon who places the catheter at the end of surgery in 5 min.

As we have been satisfied with PVB analgesia, we decided to adopt it also in VATS and developed a new technique for catheter placement which is simple and feasible during thoracoscopy [3]. Since in thoracoscopy, the posterior

parietal pleura is always kept intact and any drug run-off in the pleural cavity is avoided, PVB in VATS is even more effective than in open surgery.

Prompt by our wish of innovation, we decided to use our VATS technique for paravertebral catheter placement [3] also in thoracotomies, leaving the technique adopted at the beginning [2]. Once again we were satisfied. At present, excluding cases of pleural disease, which is the only contraindication to catheter placement, we always use PVB in both VATS and thoracotomy.

We congratulate the authors with the hope that their article could be useful in focusing thoracic surgeons' attention on this successful analgesia.

Funding

REFERENCES

- [1] Scarfe AJ, Schuhmann-Hingel S, Duncan JK, Ma N, Atukorale YN, Cameron AL. Continuous paravertebral block for post-cardiothoracic surgery analgesia: a systematic review and meta-analysis. *Eur J Cardiothorac Surg* 2016; 80
- [2] Raveglia F, Rizzi A, Leporati A, Di Mauro P, Cioffi U, Baisi A. Analgesia in patients undergoing thoracotomy: epidural versus paravertebral technique. A randomized, double-blind, prospective study. *J Thorac Cardiovasc Surg* 2014;147:469–73.
- [3] Cioffi U, Raveglia F, Rizzi A, Di Mauro P, De Simone M, Baisi A. Paravertebral analgesia in video-assisted thoracic surgery: a new hybrid technique of catheter placement for continuous anesthetic infusion. *Thorac Cardiovasc Surg* 2015;63:533–4. 85

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[†]The corresponding author of the original article [1] was invited to reply, but did not respond.